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ABSTRACT

This newsletter describes development projects that utilize varied media, including microcomputers, videotape, and print materials, and discusses development communications issues. Specific articles are as follows: "Microcomputers for Education in the Developing World" (Kurt D. Moses); "Social Marketing: Two Views, Two Opportunities" (Susan Saunders and William A. Smith); "Wonsuom--A Rural Communication Project in Ghana" (S. T. Kwame Boafo); "New Learning Technologies Project" (brief description of a new project); "Documentary on DSC (Development Support Communication) Shows TV Doesn't Have to Be Expensive to be Good" (Iain McLellan); "A.I.D. Development Communications Policy"; "Oral Rehydration Therapy Video Tapes"; "The Training and Demonstration System of Agricultural Extension: A Nigerian Experience" (Richard China and Peter Langmead); "Publications to Note" (Arlene Horowitz); "Field Experience in the Gambia: Screening and Training Fieldworkers" (Peter L. Spain); "Results of DCR Reader Survey"; and "The Coming of Age of Development Communication" (Judy Brace). Four books are reviewed in "A Communicator's Checklist" (reviewers are Maria Rubama, Sally Coghlan, Arlene Horowitz, and Judy Brace) and Barbara Minor reviews recently acquired ERIC documents on development topics. (LMM)

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development communication report

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Microcomputers for Education in the Developing World

by Kurt D. Moses

The United States Agency for International Development has identified four characteristics of formal primary education in less-developed countries, particularly Africa, which appear to impede the efficiency of education and training systems. The four characteristics are:

- Inability of education systems to reach all populations efficiently
- Limited resources compounded by inadequate planning and implementation as a result of missing data, lack of qualified manpower, and lack of administrative coordination
- Scarcity of basic knowledge on the organization of the educational system
- Insufficient effect of short-term projects created by uncoordinated donor efforts.

Of these problems, the second is increasingly amenable to the use of a microcomputer to improve educational efficiency. The limitations on planning and implementation of educational efforts that result from lack of data, lack of qualified manpower, or lack of administrative coordination all make use of the powers that a microcomputer can bring to bear at various points within an organization. These powers can be categorized into six basic categories:

- Organizing information
- Performing computations or processing paper work
- Monitoring progress
- Enhancing planning
- Improving communication
- Enhancing instruction

Each of these applications will be described in more detail in the following section.

Organizing Information

At the present time, one of the most rapidly growing applications for microcomputers in the less-developed world is the *organization and retrieval of information*. In order that it be used effectively, particularly in an automated form, information must be characterized, related, and placed into an easily accessible format. Computers typically not only require this type of organization, but in fact assist it by allowing rapid comparison of available data and by allowing multiple indexes for specific factual items. As an example, students who have been recorded in a school system's ledger can be categorized by three or four different selection criteria (e.g., sex, grade, region of birth, performance in school) and thereby be subject to more rapid analysis.

The most powerful immediate application of microcomputers in the less-developed world will be at the ministry level, where there are frequently severe shortages of trained staff, a lack of administrative coordination, and offices which are typically distant from the source of data on the educational system. In the ministries, and also in some countries, at the regional level, microcomputers can assist in the management of available data on students, on teachers, on facilities, and on finances.

In these applications, microcomputers are typically used to maintain fairly complex databases, and can pre-edit data which is submitted by schools, by districts, by regions, or by other organizational units within the educational system. In the past, in ministries which had some access to computer power, there were frequent delays because of over-burdened central computer facilities. Now, microcomputers

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Social Marketing: Two Views Two Opportunities

by Susan Saunders and William A. Smith

"If you can sell toothpaste,
why can't you sell good health?"

This simple and somewhat disquieting question lies at the heart of social marketing and reflects its origin in the commercial world. Commercial marketing represents a powerful technology for selecting, producing, distributing, promoting, and selling an enormous array of goods and services to a wide variety of people in every possible political, social, and economic context. Even those who resent the slick superficiality of some modern advertising, or decry the ever-increasing array of seemingly useless gadgets, must accept the fact that marketing works. It creates products (most of which are useful); it positions those products in a marketplace to meet a special consumer demand; it makes the products available and affordable to particular consumer segments; and it motivates consumers to buy and use a product by illuminating its benefits.

Social marketing applies this approach to problems such as cancer detection, forest fire prevention, dental hygiene, automobile safety, alcoholism, child abuse, family planning, and infant diarrhea. Internationally, the term is used in two ways. The first emphasizes selling a product; the second selling an idea.

The first view of social marketing necessarily includes the *sale* of some socially beneficial product, such as condoms, birth control pills, or oral rehydration salts. Typically, these products are subsidized to ensure that the consumer cost is low enough to reach those unable to pay commercial prices, but the actual sale of the product is considered critical because it contributes in four ways to marketing effectiveness. First, it helps to ensure consumer motivation. Some argue that if hard-earned cash is used to pay for a product, then the person really wants it and will use it. Second, marketing increases

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(**Social Marketing** continued from page 1)

internal efficiency. Sales are a simple and clear-cut measure of program success. Poor sales are a motivation to examine the program itself and change what is wrong. Advocates also argue that the sale of a product stimulates the entrepreneurial instincts of program managers; it provides an internal stimulus to succeed which makes these programs more efficient than public sector bureaucracies whose incentives are typically independent of program performance. Finally, sales contribute, although not fully, toward cost-recovery and increase the potential for long-term self-sufficiency.

The second view of social marketing uses the same systems approach as the first, but emphasizes the promotion of socially beneficial ideas and practices instead of products. There is no object to sell, no transfer of money, but rather an articulate reshaping of traditional educational strategy to reflect a consumer orientation and a marketing context. "Eat less salt," "Use your seatbelts," "Immunize your child before age one," "Keep breastfeeding your infant during bouts of diarrhea" are examples of socially beneficial practices which can be marketed almost like Coca Cola, new cars, or condoms.

But social products are different from commercial ones in important ways. For example:

Social Products Are More Complex than Commercial Ones

It is one thing for a consumer to choose between Coca Cola and Pepsi Cola, but quite another for a rural woman to learn a new formula for making a diarrhea medicine at home, remembering how much salt and sugar to use, and then giving enough of that solution to a fitful and sick child.

Social Products Often Are More Controversial than Commercial Ones

Again, it is one thing to sell a new perfume and quite another to motivate a young African man, whose status in his community depends upon having children, to use modern contraception.

Social Products Are Less Immediately Satisfying to the Consumer

It is not much fun to walk for several hours, wait in line several more to have your child vaccinated, and have your husband complain the next morning because your child was crying all night. Nor is it gratifying to go for a breast examination and discover you have breast cancer. In contrast, you drink Coca Cola and it immediately tastes sweet and pleasant.

Our Audiences Have Fewer Resources than Most Consumers

The "poorest of the poor" are rarely an explicit audience for commercial marketers. But social marketers are committed to reaching precisely those people with the least time, status, and mobility; people who are often illiterate, isolated, sick, discouraged, and left out.

Social Programs Require Spectacular Results

Ministries of Health, when planning a new program, want a 30–50 percent reduction in infant mortality. Changes of 2–3 percent are simply not acceptable. Any major manufacturer of shampoo, however, would be delighted with a 2–3 percent increase in market share after six months of advertising.

There are many other differences. William Novelli, President of Needham Porter Novelli, has outlined some important differences between the marketing of commercial and social products. He points out that: 1) there is greater resistance to audience research and audience segmentation in social programs; 2) governments are rarely able to maintain continuity and support long-term marketing efforts; 3) social programs have much less control over the delivery system, and government intermediaries are not motivated by sales incentives; 4) social marketers are asked to teach many things at once, not just focus on the single most important benefit of a new suntan lotion, for example; 5) consumer research is difficult because of the very nature of social products. How, after all, do we really verify consumers are using contraceptive products properly? 6) Competition often comes from colleagues in other social ministries so we find ourselves defending "health" as more important than "food" in order to compete for scarce government resources. These and many more factors make the job of social marketing substantially more difficult than that of the traditional commercial sector.

These differences are important, but so are the similarities between commercial and social marketing which distinguish them from other delivery strategies.

Marketing, whether social or commercial, is organized around four P's: product, price, place, and promotion.

Product, as already discussed, can be either an object or an idea. An important factor is that the product be configured to maximize consumers' acceptance and use. If, for example, effervescent salts are more acceptable, attractive, and useful to certain rural women, then oral rehydration salts (ORS) packets should be transformed into effervescent tablets. If mothers don't understand the concept of dehydration, then it may be best to position ORS as a tonic to strengthen the baby during diarrhea or a prevention for "dryness."

Price, or the cost of the product to the consumer, takes on hidden meaning when social marketers promote, for example, a home-mixed sugar and salt solution. The price of ORS is not only the actual monetary cost of the sugar and salt, but also the time a mother must spend mixing and administering the solution to her child. To ask a mother to boil and then cool water, for example, adds significantly to the "cost" of home-based oral rehydration therapy. Family planning services often carry another kind of hidden cost. The harangues from in-laws and other family members often plague a contracepting young couple and represent a prestige cost many are not willing to pay.

Place relates to where the product is available and signals the importance of an adequate distribution and supply system to ensure that the product is *easily* available to the consumer. The emphasis in effective marketing is putting the product in a place which maximizes contact; this often means developing special distribution systems. In public health, we are too wedded to health centers as the primary distribution system. A marketing perspective may lead us to discover some exciting alternatives.

Finally, **promotion** encompasses a wide array of techniques for using different communication channels (media, point-of-purchase displays, posters, meetings, etc.) to make sure that consumers know what the product is, what it is for, what benefits it has, how it is to be used, where it is available, and anything else that might motivate a consumer to seek it out and use it properly. This last issue of proper use takes on special importance with ORS. It is not enough just to put ORS in every home. Unlike immunizations or even contraceptives, the consequences of improper mixing and administration of ORS in the home are potentially life-threatening.

The implicit "P" in marketing is *people;* the consumer, the target audience, the potential user. Marketing, more perhaps than any other delivery strategy, places emphasis on the consumer's needs, attitudes, constraints, and opportunities. It is practical, comprehensive, integrative, and research-driven. Whether it is "selling" a product or "selling" an idea, these four qualities can add significantly to our ability to organize and then deliver improved social services in a wide variety of areas. ■

Susan Saunders is Director of Social Marketing Programs for the Academy for Educational Development. She has worked in social marketing internationally for the last ten years. William A. Smith is a Senior Vice President of the Academy for Educational Development.

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Readers are invited to submit typed manuscripts of no more than 1000 words, and to send in photographs.

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Wonsuom—A Rural Communication Project in Ghana

by S. T. Kwame Boafo

The communication infrastructure in most parts of sub-Saharan Africa displays a heavy urban bias in geographical reach, content, orientations, language, and style. Most outstanding and common among the features of the modern communication systems in the region are high concentration and clustering in the cities, inadequacy of information facilities and resources, and limited accessibility to available facilities for people living in the rural areas.

These features serve as a major obstacle to efforts using, on a long-term and sustained basis, communication technologies in the socioeconomic, cultural, and political development in the sub-Saharan African region. The inadequacies in the distribution of communication technologies in the region make it difficult for the bulk of the population who lives in the rural communities to participate effectively in discussing and making decisions on development issues. The gaps and imbalances in communication infrastructure can also create, among people cut off from the mainstream of communication flow, severe disagreement or ignorance of national development goals and strategies. Such conditions can either frustrate or decelerate development efforts. Solutions to this problem which have been proposed and attempted in many regions of the developing world include decentralization and democratization of the communication infrastructure, with the establishment of rural newspapers and local community radio stations as a major focus.

The *"Wonsuom"* rural communication pilot project in Ghana broadly aims at training, research, and experimentation in rural community-based communications, and specifically at providing communication technologies at the grassroots level to enhance the contribution of communication in rural development. *"Wonsuom"* is a Fante expression which literally means "Let's carry it together." It identifies the project and symbolizes the significance of getting the people to participate in development programs in their communities. *Wonsuom* is used both as a call sign for the radio programs and the name of the newspaper. Fante is the main language spoken in the project area. The project, when fully operational, will use a combination of a rural newspaper published in the local Fante language, rural radio broadcasts, radio listening clubs, and slide projectors to carry development-oriented information to the communities in the project area and to mobilize and stimulate the people for development programs.

The *Wonsuom* project is carried out by the School of Journalism and Communication at the University of Ghana with technical and financial assistance from Unesco. The project is based in the Central region of the country, about 80 kilometers west of Accra, the national capital, and covers 22 rural communities with a total population of about 150,000. The adult population in the communities is mainly occupied in farming and fishing.

Programs from Local Communities

The radio component of the project was formally launched in March 1983, after an extensive 14-month preparation and planning period. Programs are produced and transmitted on the local relay station of the national broadcasting corporation on a daily basis. Most of the programs are generated from the local communities and address issues of interest and relevance to the local people. The radio broadcasts deal principally with: a) news and information on local events and significant national events; b) discussion programs involving local community leaders, farmers, fishermen, and extension agents on problems facing the communities and on such development areas as primary health care, agriculture, community development, home management, family planning, and small-scale industries; c) features on the achievements of farmers, fishermen, and other individuals and on development activities in the local communities and elsewhere.

"Listening clubs organize performances and competitions among local brass band, singing, story-telling, and wise-saying groups . . ."

Only the radio and listening clubs components of the project are in the implementation stage because of a number of constraining problems. The problems, which stem from Ghana's deepening socioeconomic crisis, include fuel shortages, electricity rationing, and a general scarcity of goods and services. These factors have created some discontinuities in the implementation of the project and delayed both the publication of the rural newspaper and an evaluative study of the project's reach, penetration, and effects on the local communities. But there are some indicators of the impact.

Feedback and Outreach

Wonsuom radio listening clubs have been formed in the communities by the local residents. Members of the clubs meet on a regular basis to listen to the radio broadcasts, discuss issues highlighted in the broadcasts, and then deliberate on ways of generating development projects in their communities. The discussions and deliberations are recorded for subsequent broadcast on the radio. This helps to carry the views and opinions of the communities on issues of concern to them and create a two-way communication process in the villages.

The listening clubs also serve as the focus of social and cultural life in the communities. The clubs organize performances and competition among local brass band, singing, story-telling and wise-saying groups, and concert parties. These performances are recorded for broadcast which gives access to the radio and recognition to talented local artists. Besides, the listening clubs have helped to unearth from the communities a number of young and middle-aged people who possess leadership qualities, initiative, and dynamism in community development. Such individuals have organized members of the listening clubs to undertake self-help development projects such as farming, pit-latrine construction, clean-up campaigns, and adult literacy classes in the local languages.

An evaluation has been scheduled to gather more empirical data on the impact of the project. It is anticipated that newspaper reading clubs will be organized when the newspaper component of the project is implemented to complement the radio listening clubs. Slides have also been planned on development issues for showing by development agents at the meetings of the clubs and other organized social groups in the communities. In these ways, the *Wonsuom* rural communication project reinforces development messages through radio transmission, through the newspaper, through slides, and through interpersonal communication. ■

S. T. Kwame Boafo, Ph.D., is a Lecturer in the School of Journalism and Communication, the University of Ghana, in Legon, Ghana.

New Learning Technologies Project

Under a cooperative grant agreement with the Office of Education of the Agency for International Development's Bureau for Science and Technology, the Institute for International Research (IIR) has recently begun a Learning Technologies Project to explore the uses of newer learning technologies in developing countries. These technologies may include microcomputers; hand-held electronic learning aids and other microprocessor-driven devices; videodiscs and interactive video; telecommunications equipment for the transfer of instructional materials; and print technologies.

The Learning Technologies Project will be directed by IIR's Director of Development, Dr. Sivasailam Thiagarajan.

IIR will assist in developing a framework for designing a series of pilot research studies, and evaluating competitive proposals from organizations in the U.S. and the Third World.

Inquiries related to the project should be addressed to Dr. Clifford Block or Dr. Julianne Gilmore, S&T/ED, Agency for International Development, Washington, D.C. 20523, USA. ■

Documentary on DSC Shows TV Doesn't Have To Be Expensive To Be Good

by Iain McLellan

As a freelance reporter for the African section of Radio Canada International for the past two years, I have had the opportunity to make contact with a variety of Canadian and African government officials, educators, and non-governmental organization workers. Many of these people shared with me their enthusiasm for and expertise in Development Support Communication. These international contacts inspired the idea for a television series designed to provide both Canadian and African audiences with an overview of how various communications media might be used to promote social development.

We decided that the format for the series would consist of seven half-hour documentaries covering radio, television, film, appropriate and high technology, and community access to the media. The first $10,000 (Canadian dollars) to produce "Communications en Développement: Une Force Puissante de Changement" came from the Comité de l'Année Mondiale des Communications, Quebec, which was established by the Government of Quebec's Ministére des Communications to support special projects during World Communications Year '83. The Canadian International Development Agency contributed another $10,000 (Canadian) to the project.

The International Development Research Centre, Tele-Globe Canada, and the National Film Board supplied film stock shots and CF Cable TV offered a day in their three-camera studio plus two days on location with a crew in exchange for the rights to broadcast the series in Montreal. Equipment rental and access to editing facilities far below commercial rates was arranged through PRIM Video, a video artist cooperative supported by the Canada Council.

To keep the salary expenses down, the majority of the production was done by just three people: a narrator/interviewer, a technical jack-of-all-trades, and a researcher/editor. All three of us would carry, set up, and test the equipment. We found we could work very efficiently with one person in front of the camera, one behind it, and the third directing and monitoring the sound.

We used a JVC (1900CH) tritube color camera and the Sony U-Matic portable videocassette recorder (¾ inch NTSC) to do most of the shooting. We shot the interviewees as much as possible in their place of work and placed them in front of video and film editing machines, computer equipment, radio antennae and so on for added atmosphere. Other interviews and stand-ups were shot outdoors in places with a lot of greenery.

The series includes the whole gamut of communications technologies used in North America and Africa, from a demonstration of a flannelograph, to posters and puppets, to computer video-text, interactive video, and fiber optics. We were fortunate to be able to interview African communicators who were in Montreal for the World Conference of Community Radio Broadcasters, and a training session at l'Institut International de la Communication.

Cameroonian communications consultant Jean-Victor NKolo proved to be an extremely valuable resource. Among other things, he was helping the Canadian Sickle Cell Anemia Society to organize a publicity campaign, and we filmed the process to illustrate how community groups can use the communications media to their advantage.

"We found we could work very efficiently with one person in front of the camera, one behind it, and a third directing and monitoring the sound."

We wanted to get a good balance in the series between concrete examples of successful communications projects and an open discussion of the problems involved in putting communications to work supporting development. We also wanted to make sure that the information was presented in a palatable and visually interesting format. Our cameras take viewers inside a community radio station serving Montreal's Haitian community, to an aero-space lab where satellites are made, to a TV studio where African students are preparing a program, and to a concert given by Senegalese musicians.

The series was shown during the winter and again in the summer of 1984 on the community channels of CF Cable TV and Cablevision Nationale, the two cable companies which serve 80 percent of the homes in Montreal. The television networks of Senegal, Central African Republic, and Benin have expressed interest in broadcasting the series. The Centre d'Etude et de Coopération International, a Montreal-based non-governmental organization, the Canadian International Development Agency, and l'Institut International de la Communication are finding the series to be a useful training tool.

Though it was not easy addressing both Canadians and Africans at the same time, I think we were able to contribute to bridging the information gap between the two continents. Both communities should have a better idea of the issues surrounding the use of communications to aid social development after seeing the series.

Some Practical Wisdom

1. Don't worry about wearing out shoe leather or your telephone contacting potential donors of money or equipment. Make as many calls as you can. There is a direct relationship between the number of people you contact and the amount of support you receive.

2. Video is not as complicated as it seems. It just takes a combination of creativity, common sense, and patience. The technical aspects of videotape can be picked up on-the-job quite easily.

3. Do as much pre-planning as possible to save time during the shoot. Pre-interview all interviewees and prepare questions in a systematic fashion which will aid in editing later and save precious production time.

4. Schedule as many interviews as possible each production day and give the illusion of interviewing them in different locations by changing the backgrounds, furniture, or decor without having to move your equipment.

5. Don't let your interviewees ramble. Tell them to keep their answers short and don't be afraid to interrupt for a clarification or another question.

6. Keep good track of what shorts and interviews are on which cassettes. This will save lots of time when it comes to editing.

7. Try to keep as cool as possible during the long hours and high tension of the production period. You can be sure that a piece of equipment will malfunction, an interviewee won't show up, a drop-out will mysteriously appear on a new cassette, you'll have an electronic buzz you can't get rid of easily, or a kleig light will blow, hopefully not all on the same day.

8. Be ready to make last minute changes and adjustments. No production is completed exactly as planned without a delay or two or three.

9. Make sure you have more than enough blank cassettes to cover your day's shooting and try to economize on the amount of tape you use. It's better to have many short shots and interviews than a few long ones. It makes editing easier as well.

10. Don't shoot outdoors without bringing along a microphone wind screen. You never know when you might need one.

11. Try to keep the camera as steady as possible while filming an interview, with the occasional pan in and out. Too much camera movement is distracting to the viewer and makes editing more difficult.

12. When editing your stock shots be careful to follow logical sequences and not have a person scratching his head one second and his hands in his pockets the next.

13. Try to get a good balance between a clip that is too long and boring and one that is cut off too quickly before the viewer can figure out what's going on.

14. Try to avoid editing in drop-outs or bad

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A.I.D. Development Communications Policy

The Agency for International Development has given new impetus to its commitment to development communications with the issuance of a recent "Policy Determination" on *Development Communications*. This is the first time that the U.S. bilateral aid agency has specifically endorsed communications as an important area for development assistance, noting that a substantial increase in support of communication activities is anticipated.

The Policy Determination provides guidance on the objectives and conditions under which A.I.D. will support the fuller application of communications methods and technologies in U.S.-assisted development programs. It states that A.I.D. will assist developing nations in using communications to reduce costs, extend services and information, and increase the effectiveness of projects it supports in all sectors. A.I.D. will also provide guidance in making informed consumption and investment choices among available technologies, including the development of new communications infrastructure, although A.I.D. will not give priority to investments in infrastructure.

The Policy Determination makes the case that communications technologies are powerful tools for development, with substantial potential for (1) reducing rural isolation; (2) increasing the productivity and effectiveness of economic and social development programs; (3) strengthening key private and public sector institutions; and (4) advancing the basic human right of people to have the information needed to make informed personal choices. The emphasis in A.I.D.'s assistance will be on technical assistance and training to support the application of communications to problems of development.

Determinations on the possible inclusion of communications activities in specific A.I.D. programs will be made by A.I.D. Missions in each developing nation, and will be influenced by other priorities agreed to by the host country and A.I.D.

A.I.D.'s central support activities in development communications are being enhanced. These responsibilities rest in the Division of Educational Technology and Communications in the Office of Education, Bureau for Science and Technology, A.I.D./Washington, directed by Dr. Clifford Block.

The full text of the A.I.D. Policy Determination can be obtained by writing to "Development Communications Policy Determination," c/o The Clearinghouse on Development Communication, Academy for Educational Development, 1255 23rd Street N.W., Washington, D.C. 20037, USA. ■

On File at ERIC

Documents recently entered in the ERIC (Educational Resources Information Center) files include papers on the role of communications in developing nations and the use of communications to encourage participation in projects, and reports on the use of popular graphic media in development, a distance teaching project, and a computerized information service. All five are available on microfiche and four in paper copy from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia 22210, U.S.A. Be sure to include the ED number and payment in U.S. funds for the price listed plus shipping.

- McAnany, Emile G. *From Modernization and Diffusion to Dependency and Beyond: Theory and Practice in Communication for Social Change in the 1980s*. 1983. 38 pp. (ED 240 621)

Through a review of development literature, McAnany examines the changes that have occurred in thinking about the role of communication in developing nations. He begins by surveying the theories of the past, including those of the neo-classical and Marxist scholars. He also looks at the emergence of the dependency theory, examines paradigms as research complexes, and discusses theory and practice gaps in communications. He then looks to the future and to an integration of theory and practice. Among the topics discussed are (1) the meaning of communication in development; (2) development priorities in the 1980s; (3) Third World communication priorities and expectations in the 1980s, including the role of the new technologies in development, new communication and cultural policies, and alternatives for democratization and participation; (4) potential areas of change in communication including the organization of people, areas of rural need, and communication technologies and rural development; and (5) new paradigms and practices in the 1980s. This paper was the keynote address at the Conference on International Communication and Agriculture held in Urbana, Illinois, in April 1983. Available from EDRS in microfiche for 97¢ or in paper copy for $3.90.

- Perrett, Heli E. *Using Communication Support in Projects. The World Bank's Experience. World Bank Staff Working Papers, Number 551*. 1982. 77 pp. (ED 241 034)

Intended to assist World Bank staff and officials in deciding when and how to include communication support activities in Bank-financed development projects, this paper describes the use of planned communications to encourage participation in projects by certain groups of people, to improve institutional efficiency and staff development, and to ensure project benefits or prevent negative project impact. It is noted that communication support includes informational, motivational, and educational activities which make use of person-to-person contacts, group discussions, mass media, or other channels of communication. The paper describes (1) the role and functions of communication support in World Bank lending projects; (2) experience of communication support in such projects; (3) the process of designing communication support activities; and (4) common problems and issues in the design of these activities. It is concluded that well-managed communication support can provide a cost-effective approach to the design and impiementation of development projects. Appendices provide information on World Bank lending for development communications and educational broadcasting; illustrations of project analysis from Bank project work; an extensive list of the advantages and disadvantages of using different media, materials, and techniques for communication support; and a workshop agenda showing the integration of communication support into a course on population planning, policies, and programs. Available from EDRS in microfiche for 97¢ or in paper copy for $7.40

- Parlato, Ronald and others. *Fotonovelas and Comic Books—The Use of Popular Graphic Media in Development*. 1980. 265 pp. (ED 239 806) (Circulated in November 1979 under the title *The Use of Popular Graphic Media in Development Support Communications Programs: A Survey of Fotonovelas and Comic Books*.).

Intended as a working document for communications professionals and as reference material for planning administrators, this study compared comic books and fotonovelas and analyzed their use in health and nutrition, family planning, agriculture, and literacy programs in developing nations. Most of the somewhat limited efforts to use these forms of media dealt with family planning. Generally, the efforts were not entirely successful and the quality of production was irregular, because producers misunderstood the media forms and did not appreciate their traditional conventions and generic structures. Fotonovelas, with their visual and highly emotive quality, were found to be more effective in reaching illiterate, semi-literate, and large audiences; had more potential for multimedia campaigns and participatory education; and were better suited for certain distinct educational messages, especially family planning. In contrast, comic books, with their less emotive themes and more abstract presentation, were found to be more flexible, could reach more diverse audiences, and were ideal for children and adolescents. However, comics were more expensive to produce and presented more production problems than fotonovelas. Both faced distribution problems resulting from limited institutional channels and limited commercial marketing systems in less developed countries. This report, which includes a review of successful and unsuccessful examples of both media forms, is available from EDRS in microfiche for 97¢ or in paper copy for $19.95.

(continued on page 6, col. 1)

(ERIC continued from page 5)

- Lalor, Gerald C. *The University of the West Indies Distance Teaching Project. Report to the Advisory Council. ACEP 7.* 1983. 16 pp. (ED 240 993)

The three papers in this report are concerned with the development and activities of the University of the West Indies Distance Teaching Project (UWIDITE), through which the University is continuing experiments on the use of telecommunications to extend its rural services. A report to the advisory council, the first paper summarizes the UWIDITE project to date and discusses preliminary studies that led to recommendations for a small system to be used for inservice teacher training for challenge examinations, agricultural extension, and health training. Discussion of the project includes funding, objectives, initial programs, present status, equipment, maintenance, training, technical assistance, evaluation, current network uses, programs being prepared, project administration, advisory committee, conclusions, and suggestions. The second paper, "Developing Study Guides and Workbooks for Programs," lists UWIDITE program development services and provides guidelines for the preparation of student materials for distance teaching programs. These guidelines suggest inclusion of a general introduction as well as a course introduction, and describe course development techniques. The third paper, "Interactive Distance Teaching," is a synopsis of strategies to make effective use of interactive audio through humanizing the experience and grouping the participants, preparation of course materials, encouraging discussion, and making listening easier. Available from EDRS in microfiche for 97¢ or in paper copy for $2.15.

- *The Evaluation of SISMAKOM (Computerized SDI Project).* 1983. 58 pp. (ED 241 060)

A survey of 88 users of SISMAKOM, a computerized selective dissemination of information (SDI) and document delivery service provided by the Universiti Sains Malaysia and four other Malaysian universities, was conducted in August 1982 to collect data about the system and to assess the value of such a service in a developing country. The SDI service, which is based on the Chemical Abstracts (CA) and the Food Science and Technology Absracts (FSTA) databases, has been offered to college instructors and selected personnel in private businesses and the government since November 1980. Approximately 78 percent of the respondents indicated that they were better informed since they started using the service; 30 percent were already aware of the existence of more than 60 percent of the information supplied; a saving of three hours per week due to use of SISMAKOM was reported; 90 percent wanted to continue using SISMAKOM and 40 percent of this group were willing to begin paying for the service; and 62 percent expressed a need for retrospective searches. This report from Unesco presents descriptions of the SDI project and survey methodology and results, a series of recommendations for SDI services in developing countries, and a copy of the original questionnaire with an English translation. Available from EDRS in microfiche only for 97¢. ■

Barbara B. Minor, Publications Coordinator, ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13210 USA.

Ag Publications

Readers involved with agriculture will be interested in the work of Agribookstore, which acts as the developed world sales agent for a number of international agricultural research centers. To obtain Agribookstore's free catalogue, write to Steven A. Breth, Agribookstore, IADS Operations, Inc., Rosslyn Plaza, 1161 N. Kent St., Suite 600, Arlington, Virginia 22209, USA. ■

Practical Research Handbook

As *DCR* has reported, distance education is undergoing a revival among education planners around the world. The International Extension College has been a steadfast supporter of all kinds of distance teaching efforts, and in 1982 published what is essentially a "cook-book" for running a distance education activity. *Practical Research in Distance Teaching: A Handbook for Developing Countries* addresses the necessity for using practical research to ensure the best possible educational management and products. Author Roger Mitton states:

> By "practical research" I mean research which is undertaken to help a distance-teaching organization do a better job. Someone is supposed to do something in the light of the results—to change a policy, to redraft some material, to launch or cancel a project, or whatever. And the researcher carries out his research with that in mind from the outset.

Based on several years' work with the Lesotho Distance Teaching Center, the *Handbook* links research to action; instructs in basic research methods such as social surveys, sampling, questionnaires, data processing and analysis; and ties these research methods to distance teaching applications. Appendices tell the practitioner how to do statistical procedures, and the theory behind them; how to do costing; and where to read further into the subject.

The Agency for International Development is making available, through the Clearinghouse, a limited number of copies of the Handbook free to developing country practitioners. Others may write for ordering information from the International Extension College, 18 Brooklands Avenue, Cambridge CB2, 2HN, United Kingdom.

J.B.

Oral Rehydration Therapy Video Tapes

The Office of Health, Agency for International Development (A.I.D.) has developed two videotapes on Oral Rehydration Therapy for world-wide educational and promotional activities:

- "Vital Fluid"—total run time 7 minutes
- "Saving Children's Lives"—total run time 25 minutes

Both tapes depict the seriousness of diarrheal diseases, explain how dehydration from diarrhea kills, and show how Oral Rehydration Therapy can successfully save up to 5 million lives each year. The tapes include field shots taken in Africa, Asia, Latin America, and the Near East, and footage taken at the 1983 International Conference on Oral Rehydration Therapy (ICORT). A.I.D.'s role in the ORT effort is highlighted.

The seven-minute tape, "Vital Fluid," is a summary of the longer 25-minute presentation. "Vital Fluid" has been successfully used to give a general introduction to ORT during staff meetings and promotional visits, thereby setting the stage for further specific ORT discussion. It is recommended that there be an ORT speaker present with this tape to answer questions and to discuss specific organization issues relating to ORT programs.

The 25-minute tape, "Saving Children's Lives," describes the diarrheal problem, ORT treatment, and A.I.D.'s projects in further detail. The same basic format is followed as in the "Vital Fluid" tape. This tape has been used successfully at conferences, displays, and in meetings where a more in-depth look was requested. It is intended to be more of a training film for the general public. Though it is not specifically designed for the medical community, it could also be of use as a general introduction to ORT for physicians and other health professionals.

Both tapes are in color, on ¾ inch U-matic cassettes.

For further information, please contact Robert Clay, Public Health Advisor, Office of Health, Agency for International Development, Room 702, SA-18, Washington, D.C. 20523, USA.

Education and Technology Conference

The World Congress on Education and Technology, to be held in Vancouver, Canada, May 22-25, 1986, will consider the implications and impact of technology on education and society.

Program proposals and requests for more information may be sent to David Rivers, Congress Director, World Congress on Education and Technology, 1155 West 8th Avenue, Vancouver, British Columbia, Canada, V6H 1C5.

The Training and Demonstration System of Agricultural Extension: A Nigerian Experience

by Richard China and Peter Langmead

Bauchi State Agricultural Development Program (BSADP) was established in 1981 by the Nigerian Federal and Bauchi State Governments with the assistance of the World Bank. The objective of BSADP is to increase state agricultural production by three to five percent a year over a five-year term. This is being achieved by the development of an effective extension service and by providing easy access to agricultural inputs and markets through construction of village sales points and feeder roads. The program covers 66,000 square kilometers of semi-arid savannah and serves 455,000 farm families with an average farm size of three hectares. The principle crops are millet, sorghum, maize, rice, groundnut, cowpea, cotton, and vegetables. Most farmers cultivate by hand but the use of draft oxen is increasing. All farmers keep small numbers of livestock.

In 1982 BSADP took over the State Ministry extension service with a village extension agent to farm family (VEA : FF) ratio of 1 : 1659. Prior to BSADP, the extension service had pushed sole crop packages, ignoring evidence that farmers' mixed cropping systems were more efficient in their use of labor, water, light, and nutrients. Moreover. VEAs with their negative attitudes to traditional farming and inadequate technical background, were expected to convince farmers to adopt these sole crop packages by theoretical instruction only. As a result, VEAs commanded little respect among farmers and made little impact. Thus the main challenge for BSADP has been to devise recommendations which fit into traditional cropping systems; to ensure effective communication; and to change staff attitudes.

Implementation of T & D

In early 1982, BSADP recruited two consultants in Extension and Media to reorganize the extension service. These were Richard China (Extension Specialist) and Peter Langmead (Media Specialist). A modified T&V system called Training and Demonstration (T&D) was devised, and media facilities were developed. All extension staff underwent re-orientation courses to introduce T&D and increase their appreciation of traditional cropping systems.

VEAs were assigned to 232 village sales points. As in T&V, small groups of VEAs receive topical training one day every fortnight from trainers at 70 selected sales points (SPs); however, in T&D, training concentrates on the practical skills of how to demonstrate new methods on farms, and each trainer is equipped with a Mobile Video Unit (MVU).

Every fortnight the 'MVU Trainers' are briefed by the Extension Specialist on the current package. These packages contain simple illustrated notes for VEAs; video dramas, which communicate not only the T&D message but also illustrate the approach that VEAs should adopt in their dealings with farmers; audiocassettes for VEAs to play to farmer groups; demonstration samples such as new seed varieties in labelled specimen bottles and various chemicals; pesticide sprayers and the other inputs necessary to establish demonstration plots. To boost staff morale and credibility with farmers, extension and training staff are provided with colorful BSADP caps and badges.

To provide more background knowledge to T&D messages and improve training skills, trainers and supervisory staff frequently attend short courses conducted by the Training Department.

Demonstrations

Before the planting rains, VEAs demonstrate seed dressing and how to use fertilizer and pesticides in mixed crops. During the rainy season each VEA establishes his own plot, to further practice skills learned in training, and assists up to eight farmers in different hamlets to establish 0.2ha mixed crop demonstration plots with improved seed, fertilizer, herbicides, and insecticides. To distinguish plots from surrounding crops, and to attract other farmers attention, each plot is marked with a large BSADP flag. After harvest VEAs demonstrate crop storage chemicals, conservation of crop residues, and how to mix concentrates for livestock feeding. During the dry season, to reduce disease buildup and market saturation from continuous cropping of traditional vegetables, farmers in the flood plains are given samples of exotic vegetable seeds. Home economics agents demonstrate to farmers' families preparation of these new vegetables. Small irrigation pumps and improved vegetable production techniques are also demonstrated.

Demonstrations are conducted in groups, and mini-field days organized on successful plots so that other farmers can see the results of using new methods. The aim of the plots is not to show farmers how to farm but to give farmers an opportunity to observe how a wide range of improved technology can be incorporated into crop mixtures and how these methods perform under their own conditions. Not everything included in the plots is absolutely right for all farmers and not all demonstrations work out as intended. Farmers are encouraged to discuss what they like, what they do not like, and the reasons why. Feedback from these discussions helps to determine the next year's extension plan, and which seed varieties and chemicals should be made available in greater quantities.

Supervisors, as well as ensuring that VEAs maintain standards, conduct on-farm adaptive research trials. The function of these trials is to see how new ideas gleaned from research institutes work in the field. Successful practices which gain farmer approval may then be included in VEAs' demonstration farmer plots the following season.

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Media Center for the Bauchi State Agricultural Development Program in Nigeria. Extension agents learn to produce audio and videotapes which are shown to farmers in the field.

A Communicator's Checklist

1 ***Audio Craft—An Introduction to the Tools and Techniques of Audio Production,*** by Randy Thom (Washington, National Federation of Community Broadcasters, Inc., 1982), 183 pp.

This book offers a practical, self-help guide for people seeking a basic understanding of the electronic medium of audio production. While it is written primarily about radio production, the text can also be used by people working in video, film and audiovisual production. *Audio Craft*, developed from the experiences of broadcasters working at community radio stations, is an excellent reference that can be understood by those individuals without a science or engineering background. Nevertheless, its one weakness is that the theory of sound is treated lightly and emphasis is on practical application. While the first section does point out some basic theory about sound, frequency, and measurement, there are no discussions of modulation, the electromagnetic spectrum, or wave propagation.

The text is divided into four chapters and an appendix which outlines a sample survey course in radio production. The first chapter addresses sound and how it is measured, electricity and sound, level and impedance matching of audio connections, and balanced and unbalanced connections. This first chapter also includes the three basic ways of evaluating audio equipment, namely: frequency response, signal-to-noise ratio, and distortion.

Chapters two and three introduce the reader to the primary and secondary audio devices. Chapter two discusses primary audio devices including microphones, tape machines, audio consoles, speakers, phonographs, and patch panels. The chapter also includes information on caring for the equipment. Chapter three emphasizes secondary audio devices: (1) compressors, limiters, and expanders, and their effect on the overall volume of an audio signal, (2) equalizers and their effect on selected frequencies within an audio signal, and (3) noise reduction devices which, while not able to eliminate noise already present in recordings, are able to generate as little noise as possible. The two noise reduction devices discussed are Dolby and DBX.

Chapter four is an excellent discussion of the techniques of production. Topics include: setting up the control room, using microphones, editing, mixing, considerations in program production including real-time versus non-real time, division of labor, "spot" announcements, documentaries, and setting up remote productions.

The appendix is a sample outline for setting up a production training course with emphasis on the necessity of determining in advance what students are expected to learn. Community radio stations generally offer three types of production courses: (1) survey—which covers all aspects of production lightly, (2) specialized—which covers one aspect thoroughly, and (3) comprehensive—which covers all aspects thoroughly and is obviously longer. The author advises that the survey course be attempted at frst in order to familiarize students with equipment and basic production. Once these basics have been learned, a specialized course can be considered.

Audio Craft is an excellent resource which touches on most aspects of audio production. It is highly recommended for those individuals looking for a basic introduction to the tools and techniques of audio production. ■

Reviewed by Maria Rubama, an instructor in the School of Communications, Department of Radio/TV/Film, at Howard University in Washington, D.C. She is currently teaching in Liberia under a Fulbright grant.

Available for US $15.00 from NFCB, 1314 14th Street, NW, Washington, D.C. 20005, USA.

2 ***See How They Grow—Monitoring Child Growth for Appropriate Health Care in Developing Countries,*** by David Morley and Margaret Woodland. (New York, Oxford University Press, 1979) 265 pp.

In these days of galloping technology, which is particularly characteristic of the health field, it is delightful to find a simple technique being described as the most successful in its field.

Such is the Weight-Growth Chart of the Path to Health program, subject of this book by Dr. David Morley and Margaret Woodland, both members of the faculty of the Institute of Child Health at the University of London. *See How They Grow* is one in the excellent series of Tropical Community Health Manuals published by Oxford University Press and geared to the specific needs of trainees and practicing medical personnel in the developing world.

The use of growth charts is nothing new in either developed or developing countries. The innovative aspect of this approach is that it focuses the attention of health workers on the monitoring, not merely the recording, of growth, and on taking appropriate actions as the result of a visual negative record.

Measurement of height is of little use in making day-to-day decisions in child care; in addition to the difficulty of achieving accuracy, height measurement is not sensitive to the small changes which may be critical to the diagnosis of inadequate growth. Weight changes, however, can be easily identified and a health worker can be taught weighing procedures and the interpretation of results in a few days. In fact Morley and Woodland suggest the use of primary school graduates without health training of any sort with the observation that not only are they capable of learning the techniques but "if they prove themselves competent and wish to become health workers, they can train later as auxiliaries."

David Morley has long been known for his strong conviction that only when the health care of people in the developing world is put directly within the precincts of their own community, planned for and delivered therein, will the goal of "health for all" be reached.

> Past overemphasis on a high-quality service has used resources unavailable to the majority of the world's population. The appropriate second quality health care perhaps should be compared to first- and second-class travel. . .The journey may not be quite so comfortable. . .but you get there safely! (And more cheaply)

Any health technology which is simple and easily applicable, when materials and high-level manpower resources are at a premium, is of immense value.

The Weight-Growth chart itself is an amalgam of the best features of other weight charts, combined with of the authors' field experience. The result is a standard chart covering the first five years, simple yet packed with relevant information. The use of the chart as a home-based record underscores the concept of Primary Health Care. The commitment to community participation is an example, in the best sense, of "appropriate technology." Keeping the record in the home involves the mother (and probably other members of the family) directly, reinforcing the concept of the outreach program and promoting a more humane relationship between care giver and parents by recognizing their interest and ability to participate in the health delivery system.

In the preface of the book the authors go to great effort to document and thank those who provided the illustrations. "Books such as these can provide some technology, possibly help develop a few skills," but (in the spirit of 'a picture is worth a thousand words') "if [it] is to change people's attitudes . . . it may well be through the illustrations."

It is one of the ironies of the Third World Primary Health Care movement that the present teacher-student role may soon be reversed and many of the lessons learned and systems adopted, not always by choice, by Third World countries will become accepted practice in

highly developed societies. The explanation is money, and the growing unacceptability of geometrically rising costs.

Similarly, the last chapter, entitled "Adequate Physical Growth is Not Enough," is aimed at health care givers in the Third World. It is one of the best discussions on early child raising this reviewer has ever come across. *See How They Grow* has messages for parents and health care personnel in all phases of development and in all societies where people care about the growth—physical and otherwise—of their children. ■

Reviewed by Sally Coghlan, Director of Information for the Technologies for Primary Health Care (PRITECH) Project.

Available to readers in developing countries for £2.50 from TALC, P.O. Box 49, St. Albans, Herts. AL1 4AX, U.K. Available to other readers for US$8.95 from Oxford University Press, 1600 Pollit Drive, Fair Lawn, New Jersey 07410, USA.

3 ***Evaluating the New Information Technologies,*** edited by Jerome Johnston. (San Francisco, Jossey-Bass, Inc., New Directions for Program Evaluation Series, 1984), 93 pp.

This volume is an example of the old adage, "good things come in small packages." Its 93 pages make up a volume filled with accurate, timely evaluation data. Each article is written from the perspective of a professional research evaluator and, more importantly, by people who obviously know what they are talking about. The choice of contributors is an excellent one. There is also an interesting prologue and summation offered by Jerome Johnston, the editor. Contributors are James S. Ettema, Martin Elton and John Carey, Henry T. Ingle, and Ronald Rice.

The book debunks many claims made for new technologies and puts them into proper perspective. There are five chapters covering videotex, teletext, microcomputers, new media, and research methods for evaluating them. The data provided is written for and about the U.S. audience and takes for granted relative affluence, reliable and extensive telephone communication, abundant, cheap, and reliable power sources, and the generally temperate climate of much of the United States. Additionally, the evaluations were of programs developed for literate and relatively sophisticated users of communication and new technologies. Regardless of this fact, this book has much to offer readers in developing countries.

The data provided indicate that, for the most part, many of the newer technologies are still very much in search of markets in industrialized countries. This is important information for developing countries. If no salient benefit for these new technologies is suggested by these evaluations, change for the sake of change can be avoided.

Developing countries can also benefit from this book in that, in the words of the editor:

> Evaluation can be described as the use of social science research methods to gather information that can help one or more audience or stakeholders decide what next steps to take or how to value steps that have already been taken.

Another reason the book will be helpful to readers in the developing world is because they comprise the "second audience for evaluative data on technology," in the editor's words, "the broad range of potential customers for the new technologies."

No cost data is provided for these technologies. Given the volatility of the market for them—especially for microcomputers, cost data might quickly date the book. However, since comparative pricing information may be difficult to come by in developing countries, it might have been helpful.

The book is recommended. ■

Reviewed by Arlene Horowitz, Program Associate and Clearinghouse computer expert.

Available for US $8.95 (soft cover) from Jossey-Bass, Inc., Publishers, Department 62425, P.O. Box 6200, San Francisco, CA 94162, USA. Subscribers in the developing world should order from Jossey-Bass, Limited, 28 Banner Street, London EC1Y 8QE, U.K.

4 ***Mass Communication in Africa,*** by Graham Mytton (London, Edward Arnold, Ltd., 1983) 159 pp.

For a variety of historical and geographical reasons, the development of mass communication has been uneven on the African continent. As a concomitant to this, research on the subject, by country and by region, is sparse. Research which exists has been primarily done by non-African students of communication, and data that have been collected are often spotty and incomplete.

In an effort to generate interest and desire on the part of African researchers to take advantage of what he feels is a uniquely rich field of investigation, Graham Mytton, currently Head of International Broadcasting and Audience Research, BBC External Services in London, has given us a very useful book.

Mass Communication in Africa draws on the author's own research in Tanzania and Zambia to provide a solid base from which to review the development of mass communication (primarily newspapers and radio broadcasting) in (mostly English-speaking) sub-Saharan Africa. Mytton applies the Western theories of communication to the African environment, noting that the social contexts are crucial in determining the process by which the media are used, and that the social functions of communications to inform, to link, and to transmit social values and norms differ widely from culture to culture. The channels of communications are far more complex—and interesting—in Africa today, than perhaps anywhere else due to the continuing existence of strong traditional channels alongside the modern technologies for communicating. These traditional methods supplement what are generally resource-poor modern communications facilities in most African nations, and reflect the multiplicity of languages, geographical isolation, and economic pressures that combine to limit access to the more modern channels to a generally urban audience.

The control of the media in Africa tends to reside in government—an extension of the colonial practice—which also reflects not only political but economic realities. In other areas of the world, commercial advertising in the media rests securely on the purchasing power of the media audiences. In African nations this is insufficient to support private newspapers, radio or TV stations. However, Mytton states that:

> Even in African countries at similar levels of economic development the media differ in their role, in the social and political control exercised over them, and in other ways. They must therefore be expected to produce different results . . . Though a certain amount of work has been done on the history of Africa's media, there is room for research on a far larger scale.

A review of the media and the politics of change, before and after independence, is even-handed and thought provoking, and should stimulate a series of country-specific research projects to document these changes.

Three lengthy case studies on the media in Zambia, Tanzania, and Nigeria document the author's research in the first two countries, and personal observation in the latter. The role of radio broadcasting—the most widespread of the media in Zambia and the least appreciated—is interestingly explored. Tanzania's use of the media by the government to achieve consensus on nation-building clearly presents the multiple issues of freedom of the press, access for illiterate audiences, political orientation, cultural preservation and choice of national language. The pluralism of Nigeria's current mass media under a relatively new democratic government is reviewed. Each of the 20 political parties own media, providing a unique example of "government" ownership, and assuring a variety of viewpoints to the readership.

Mytton is a strong advocate of radio's role in the development process as a network builder, but he reminds readers that the mass media, including radio, cannot replace other forms of communciations, primarily because they cannot provide the kind of feedback that would offset the exhortatory nature of most top-down centralized communication. He points out the dif-

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(**Mass Comm.** continued from page 9)

ficult nature of this central governmental control of media:

> The fact that a government holds the power to protect the public from harm is no guarantee that the same power will be used in that interest. Development journalism requires that governments or their agencies supervise, decide, judge and act in a field in which they are subject as well as object. Reporting on governments and their activities is a legitimate part of the media's function: therefore governments are not reliable and independent arbiters of what the media ought to be doing.

But he reminds us that the constraints on African media are primarily economic, not political: increases in ink, machinery, and newsprint costs are forcing a reduction in print production, while rising costs for broadcasting equipment and parts are reducing transmissions.

These and other serious issues of the role of the mass media and their control are addressed in this book. Each chapter lists numerous reference sources, and a select bibliography is included. A few tables and charts provide useful data on the mass media in selected African countries, and a list of African mass communication study centers is included.

It is to be hoped that these centers—and others on the continent—will take this material as a point of departure and focus the skills of the social scientist on the many areas of study that are suggested by *Mass Communication in Africa*. ■

Available from Edward Arnold Publishers Ltd., 41 Bedford Square, London WC1 3DQ, U.K.

Reviewed by Judy Brace, Director of the Clearinghouse on Development Communication.

Wallchart Available

A full-color wallchart displaying a wide range of packages designed for condoms and oral contraceptives is now available from Population Communication Services of The Johns Hopkins University. The majority of these packages have been developed for social marketing projects in developing countries, and depict some creative approaches to the marketing of contraceptives.

The poster is available free of charge to *DCR* readers working in developing countries. Others may purchase the wallchart for US$5.00.

To order, contact: Media/Materials Collection, Population Communication Services, The Johns Hopkins University, 624 North Broadway, Baltimore, Maryland 21205, USA.

If you would like further information on package design and development, ask for PCS Packet #4, which includes the wallchart, an overview of the topic, and descriptions of contraceptive social marketing projects in Egypt and the Caribbean. PCS Packet #4 is free to developing country readers; US $6.00 to others. ■

Publications To Note

by Arlene Horowitz

The Asian Mass Communication Research and Information Center (AMIC) in Singapore offers an excellent series of occasional papers on development communication topics. No. 19, "Reaching Out: The Role of Audio Cassette Communication in Rural Development," is authored by Dr. Ronny Adhikarya of the FAO and Professor Royal Colle of the Communications Department of Cornell University. It provides a useful discussion of such issues as extension agents and communication, outreach systems, the use of paraprofessionals, the need for localization, overdependence on broadcasting, the main problems communicating with farmers, characteristics of audiocassette techniques, distribution systems, etc. Available from AMIC, 39 Newton Road, Singapore 1130, Republic of Singapore.

Another useful series of papers of particular interst to *DCR* readers is published by the International Extension College (IEC). No. 19 in this series of broadsheets on distance education, "Basic Education for Adults: A Report of a Workshop on Southern Africa," is taken from the proceedings of an IEC workshop on the role of mass media in distance education held in Harare, Zimbabwe, in 1981. Broadsheet No. 12 in the series, "Secondary Education at a Distance," is written by Hilary Perraton, a familiar name to readers of *Development Communication Report*. It discusses why secondary education is often overlooked in the focus on the educational needs of developing countries. Dr. Perraton reviews the ways that distance education has been used to support secondary education over the years, and concludes that while distance education will certainly bring education to many who would not otherwise receive it, it is not "an easy way of providing high quality, cheap, secondary education." These and others in this series of broadsheets on distance education can be obtained from IEC, 18 Brooklands Avenue, Cambridge CB2 2HN, U.K.

The State of the World's Children 1984, published by UNICEF, contains a collection of thoughtful essays on numerous health and social issues affecting the lives of the world's children. There is a good selection of demograhic material and statistical tables on health, nutrition, education, etc. Among the issues covered are oral rehydration therapy, growth monitoring, immunization, breast-feeding, family planning, and food supplements. Development planners and policy makers will have much on which to ponder in these pages. Available from Oxford University Press, 1600 Pollit Drive, Fair Lawn, New Jersey 07410, USA, for US$6.95; or Oxford University Press, Walton Street, Oxford OX2 6Dp, U.K.

UNDP recently sent us a collection of several timely documents that we recommend, including "A Primer on Development Support Communication," (No. RB392), a 23-page pamphlet written by Romeo H. Gecolea that explains the meaning of development communication. Along these same lines is "Guidelines for Developing a Technical Manual" (No. RB391) written by James H. French, which uses clever illustrations to show how to produce technical manuals for use by agricultural extension workers. On the first page it explains that the inspiration for the book comes from the need to bridge the "gap between the sophisticated reports turned out by agricultural researchers and the practical information which agricultural workers and farmers need to increase crop production." It succeeds admirably. UNDP also included in its collection two papers written by John L. Woods. One is an outline of a "Regional Workshop on Development Support Communication for Rural Development" (No. RB393) held in Los Baños, Philippines in August 1982, and the other Woods contribution is his essay on using communication in family planning. This piece, "Time for a New Aproach to Population Communication" (No. RB394), originally appeared in *Focus on People* in conjunction with the Third Asian Pacific Population Conference held in Colombo, Sri Lanka, in September 1982. Finally, UNDP's "The 'APTISC Approach' to the Development of Information, Education and Communication Programs" (No. RB395), by Muangtong Khommani suggests use of the Appropriate Practical and Technical Information Cube (APTISC) approach to describe precisely the scope of information, education, and communication needed by specific audiences to ensure the relevance and cost-effectiveness of campaign strategies. Available from UNDP/DTCP, P.O. Box 2-147, Bangkok 10200, Thailand. ■

Popular Theater Publication Available

In August 1983 Zimbabwe organized a three-week workshop to orient development workers to the use of theater as a tool for conscientization. It turned out to be more than a training exercise—it also revealed the rich experience of people's theater which activated, politicized, and raised the morale of individuals involved with the project.

This is one account of that workshop—a detailed description and critical analysis of the process followed by one of the workshop groups. An introduction sets out the historical experience of theater-for-development in Africa and of people's theater in Zimbabwe.

The publication is available from Kees Epskamp, CESO, Badhuiswed 251, P.O. Box 90734, 2509 LS, The Hague, Netherlands. ■

Field Experience in The Gambia: Screening and Training Fieldworkers

by Peter L. Spain

The Evaluation Unit of the A.I.D. Mass Media and Health Practices Project in The Gambia (see *DCR* #37) was a field-based research effort, with the key data collection being done in rural villages by Gambian fieldworkers. The selection of those fieldworkers and their subsequent training occupied several months of the project's first year in The Gambia.

We knew what results we wanted from our fieldworkers—a certain number of valid questionnaires every month. What we had to do then was to specify to ourselves what a fieldworker would have to do to get those results, and after that, break down those skills into what a fieldworker would have to know when he or she came to us (screening) and what we would have to teach the fieldworkers who survived our screening (training). If there was an ideal fieldworker, what would he or she be like? This was our guiding question. The answers to this question became our basis for decisions in hiring.

If there was an ideal fieldworker, what would he or she be like? What would he or she know? What would he or she do? We brainstormed freely on these questions, and came up with the following list.

The ideal fieldworker:

(a) Would read, write, and speak English, Mandinka, and Wolof
(b) Would be able to live in a village
(c) Would be able to ride a motorcycle
(d) Would be able to maintain records
(e) Would be female, because responents are female
(f) Would record answers faithfully and precisely
(g) Would be a "transparent" data collector, with no influence on respondents' answers
(h) Would be able to overcome obstacles with initiative during long periods without supervision
(i) Would be results-oriented, in terms of completing interviews
(j) Would be responsible with money and receipts
(k) Would communicate with the office as needed
(l) Would not be impatient with repeated tasks - i.e., interviews
(m) Would be sensitive to rural customs and village protocol
(n) Would understand the overall project.

There was more, but that was the gist of our profile of the ideal fieldworker.

Something we did not have to do was to look for candidates. Early on, in casual conversations with medical staff, A.I.D. staff, or friends in general, we had mentioned that the project would have four fieldworkers by December. After the middle of November, applicants began presenting themselves, and by the start of December, we had well over 130 candidates for the four fieldworker jobs. Calls came in from various government officials recommending this and that candidate; some wrote letters as well.

The Screening

We screened the application forms for abilities in English, Mandinka, and Wolof, as well as for willingness to be posted in the provinces. This reduced the list to just under 100. To select from this group, we invited all of them to sit for a written test, and through the goodwill of a local high school found a location adequate to our numbers. The test dealt with written English and called for accurate translations into Wolof and Mandinka. Candidates also had to compose some English paragraphs and solve five mathematical problems.

On this basis, we pared the list to 14 candidates. They were invited to a two-week training session, for which they would be paid. We were going to use the training sessions as the final basis for our decision to hire. In inviting 14 people, we gave ourselves a latitude that paid off later. Because of our need to do extensive baseline research before the health education interventions of the campaign began, we ended up hiring eight traineees for that first research round. Because two of the fieldworkers we eventually hired married and had children during the project, we had extra trained people to work temporarily during their confinement leaves.

So 14 people were invited for training and, of these, 12 came. None of the other candidates who sat for the test were invited, but of these, six came—not easily put off, and were willing to take the training without compensation. We agreed to take them, and the training began with 18 people.

The Training

Our guiding principle in this process was our results orientation. That is, we knew what we wanted from our fieldworkers—a certain number of valid questionnaires each month. The training focused on ways to ensure that the candidates would learn how to get those results—both the numbers and the validity.

Validity presented the most problems. It was not that the candidates seemed bent on fakery, but the problem was that they were all unfamiliar with the research concept. As educated people, and as people who hoped to be working for a famous American university in concert with the Medical and Health Department, the trainees found it very hard to grasp the concept of research as listening rather than teaching; as observing rather than demonstrating. They thought that the training would graduate them as healthcare providers, doers of good, and sharers of knowledge. The idea of listening actively to villagers without shaping or correcting villagers' comments sank in very slowly.

During pretests with village women, we found that the women themselves had no experience with the kind of interviews we hoped to do. When asked a question, they would often turn the question back to the interviewer, asking "What do you think?" or "What does the Medical and Health Department think?" Village people were accustomed to dealing with government extension agents who came to teach and to guide; these researchers who seemed interested only in listening and watching were a puzzlement to them.

The training, therefore, had to re-educate the trainees about their own assumptions of what their roles would be and to prepare them to re-educate villagers about the very same assumptions. This was the idea of the "transparent" data collector, and most of the training time was spent explaining this new concept. (The only occasions on which interviewers were taught to instruct the mothers were those in which a mother described her homemade ORT solution formula with dangerously high levels of salt.)

Training involved lectures, role-playing, discussions, and practicing interviews. The difficulties involved in active listening and the tendency of listeners to project their own ideas into what they hear was brought home dramatically by the familiar exercise of telling a story to one person, then having that person tell the story to a second person, then having the second person tell the story to a third person, and so forth. By the time the story had passed through 18 retellings and had been retold aloud by the eighteenth person, the totally transformed story demonstrated to all how difficult the listening job is.

We had special sessions on village protocol conducted by experienced Gambians with many years of rural development work. We had an overview of the project and its implications both for The Gambia and for the world, from the project director who was visiting from the United States. We had a presentation by the director of the health education campaign—just enough to give the trainees the big picture, but not enough to refuel a vision of themselves as health educators.

At the conclusion of two weeks, we selected eight people to work on the baseline research. We needed the extra personnel because time was short, and we could observe the eight in actual work situations to confirm our choice of the final four. The baseline research was done over three weeks, throughout the country, trekking together in the project's extra-large vehicle. In the end, we hired four women and went over our results-oriented checklist on each.

That was *almost* the end of the training. There remained that one item on the checklist that we had not addressed: "Would they be able to ride a motorcycle?" Training the four finalists in-

(continued on page 15, col. 2)

(**Microcomputers** continued from page 1)

can provide access to current data much more rapidly than most systems presently in operation. Recent experiences in Zimbabwe, Kenya, Senegal, and Egypt suggest that whereas the typical implementation time for a computerized retrieval system would range from 18 to 36 months, microcomputer applications on existing data can now be accomplished in under 12 months. Among the districts and the ministries, perhaps the greatest advantage at the ministry level is the capability to expand trained manpower. Not only is quality typically improved, but speed of retrieval is increased, allowing staff to perform more functions and potentially freeing other expensive personnel to deal with policy and option issues rather than merely clerical-type data collection efforts. In addition, microcomputers reveal lack of data and inconsistencies among the districts and among various ministries. Because of better accessibility, microcomputers can provide the basis for enhanced coordination.

At the regional level, which is becoming increasingly responsible for implementing educational activity, microcomputers offer a very important enhancement to the regional organization's capabilities. Often, regions represent a second or third priority in terms of resources and personnel, and, consequently, information. If properly installed, the microcomputer can assist regions in attaining control over their own activity.

Performing Computations or Processing Paperwork

This application represents perhaps the most traditional use of computers, but is particularly appropriate for microcomputers. Microcomputers represent, in the case of computation, a middle position between the electronic calculator and the periodically available capacity of large central computer facilities. Frequently, because of an overload of processing demand or inflexibility of organizational structures, central computing facilities have not been as readily available for even the routine clerical and financial functions at ministry and regional levels. As a result, a substantial amount of manual calculations is still performed. The microcomputer offers a substantial time-saving option.

In addition, and perhaps in the long-term more importantly, the microcomputer offers the option of processing paperwork with electronic methods that not only allow more rapid drafting, but also allow inclusions in major reports which previously required a considerable amount of organized effort. As importantly, the introduction of microcomputers into paperwork processing supports enhancement of communication between organizations.

Although a number of organizations in the less-developed world have had virtually no exposure to automation or computerization, some of the most modern methods of word processing can be introduced without the painful and often frustrating efforts previously associated with larger and more cumbersome equipment. While such movement to third and fourth generation computer software and hardware may seem abrupt, microcomputer software and hardware have become typically more readily useable by untrained personnel, more forgiving of mistakes, and more capable of dealing with a wide variety of situations previously not possible. As a result, microcomputer-based systems using fairly advanced technology can be customized to the particular social and cultural situation which exists in less-developed organizations.

In the same regard, processing of paperwork which relates to collection of survey data can be greatly enhanced by use of the microcomputer because it reduces the dependency of various ministries (or regions or schools) on cumbersome data entry equipment. In many instances in the less-developed world, actual surveys have been performed, but the processing of results is hindered by the lack of effective data entry equipment or trained entry operators. Microcomputers offer the possibility of entering relatively "intelligent" survey data, along with data editing and checking, to correct discrepancies or missing data closer to the source rather than later in a survey process.

Monitoring Process

Central and regional computers, particularly microcomputers, can be readily programmed to monitor performance in various areas. Since the most frequently used monitoring technique is to compare a plan with actual outcome, once such a structure is established, microcomputers can be set up to compare a plan with actual activities and to summarize readily any discrepancies.

A frequent management problem in the less-developed world is the inordinate amount of administrative time spent by a few highly trained officials to review, individually and painstakingly, each area of activity in order to determine whether a plan has been accomplished. Microcomputers can highlight those negative discrepancies which require special attention and thereby free the additional time of scarce personnel. In addition, because of the processing speed, microcomputers can reveal discrepancies more quickly, and to more people than previous manual methods.

Enhancement of Planning

Microcomputers offer tremendous potential for enhancing planning activities. Supported by an electronically maintained database, as described in the first subsection, a computer can allow the rapid development of alternate scenarios for a ministry, for a region, or even for an individual school. While certainly some types of planning are carried forward using manual methods, a microcomputer can provide, in the same period of time in some cases, a tenfold increase in the number of options that may be considered. As importantly, a microcomputer can allow for a fairly complex set of solutions to particular problems—a solution combination which may be too complex or too time consuming to monitor manually.

Such political and informal methods of decision making as are characteristic in many parts of the world, place a premium on having accurate and readily available facts and options for the decision makers. For both the developed and less-developed world, the ministries which are most effective are those which have been able to influence key leadership through accurate and readily available information at the point where decisions are being considered. It is particularly in this capacity that the microcomputer strengthens the ability of scarce, trained staff to provide appropriate information when decisions are in process.

Improved Communication

Because of the flexibility and, to some extent, the individuality of microcomputers, their installation tends to increase the desire on the part of users to interconnect them. It is soon found that microcomputers provide sufficient analytical ability to exhaust readily the store of existing data and thereby create a demand for more data or more direct linkages to larger data sources. This frequently means tying microcomputers into existing central computer installations, or interconnecting microcomputers within a ministry. Accordingly, because of certain technological efficiencies, microcomputer installations tend to create additional demand for communication linkages. The result of this demand is in some cases a shift in priorities by a less-developed country's communications ministry, or, in other cases, an intermediate solution which involves some paper data and some electronic data.

With a larger variety of information in electronically retrievable form, telephone lines can become a means of rapidly transmitting such data electronically between distant places. While the overall quality of communications lines in most of the less-developed world is substandard by developed countries' standards, communications lines between major administrative or regional organizations are often of sufficient quality to allow such data transmission. The measurable benefits of improved communication are frequently difficult to discern. Over time, however, improved communication can increase the rate at which government services are provided.

A related application of microcomputers is their ability to concentrate digital data, as well as voice data in some cases, to make more efficient use of scarce telephone communication facilities. Using a microcomputer and statistical switching techniques, multiple users can access the same telephone line simultaneously without any noticeable deterioration in performance or quality. As a result, one could create additional communication links electronically within the country without incurring the major infrastructure costs involved in laying new communications lines.

(continued on page 13, col. 1)

(**Microcomputers** continued from page 12)

Enhanced communication in almost any form is of benefit to most of the less-developed world, because lack of effective communication remains one of the major handicaps to efficient development. Lack of efficient communication which is readily accessible particularly to administrative personnel slows the processing of personnel actions, slows the distribution of materials from central sites to remote sites, and substantially diminishes the overall responsiveness of many service organizations.

Enhancing Instruction

The computer's ability to respond to specific instructional circumstances, such as recalling different lessons depending on the answer given to a question, makes the computer, and particularly the microcomputer, potentially one of the most powerful educational tools available. Lesson reinforcement, individual repetition, and drill and practice sessions can be individually tailored to specific needs of a particular culture or language. While problems remain in installing microcomputers in even moderately remote areas, the long-term potential for the microcomputer in educational applications is substantial.

Recent studies have indicated that rates of comprehension among reasonably sophisticated students, at least in the United States, have in some cases doubled in certain standardized test scores. In job training situations where visual recognition or linear problem solving are essential parts of the training experience, microcomputers have proved to be highly effective tools. With hardware costs dropping approximately 30 percent a year, and with the increased understanding of educational software, one can project that within the first five years of this current educational effort, opportunities will arise for major studies of microcomputer enhancements to the learning experience. In conjunction with a variety of nontraditional learning approaches including radio, distance teaching with correspondence, and study centers, we can expect some exciting new opportunities for educational delivery to enhance the ability of less-developed countries to extend the educational opportunity to greater percentages of their own populations. ■

Kurt Moses is Director of the Systems Services Division, Academy for Educational Development. Based in Washington, he travels widely to advise on computer applications for management.

Call for Copy

DCR encourages subscribers who have worked in projects using radio for education to share their experiences with us and our network.

Please send reports, information, or articles to the Clearinghouse editor. Thank you!

(**T&D** continued from page 7)

Mass Communications

To communicate with larger numbers of farmers, the MVUs show the T&D video dramas in villages, and in the near future fixed video units will be installed at the largest sales points. In addition, a twice-weekly radio forum complements the current T&D message.

Training of Media Staff

The equipment which is used to make the video dramas was installed and initially operated by the media specialist; however instruction was given in camerawork, simple insert and assembly editing techniques, and sound recording, so that the dramas are now produced by local staff.

Use of Media

The fortnightly T&D video package cycle is very short when one considers the high media input. In Nigeria a large proportion of media produced by outside agencies tended to be inflexible, costly, and quickly out of date. For example, a film can take over four months to produce, and can only be put to use the following season. Film serves a purpose, but it is not the purpose of T&D. The only media which are efficient, cost effective, and can sustain a rate of output suited to a two-week deadline are those which are produced electronically—video and audio.

Video can emulate nearly every other form of media: slidetapes, films, flipcharts, puppet shows, etc. Moreover, video can be produced so rapidly it can be used to direct extension staff and communicate with farmers without message dilution, and can be automated to simplify operation.

Contrary to public belief, electronic equipment survives very well in adverse conditions. The MVUs are designed to withstand shocks and, whether installed in four wheel drive vehicles or Peugeot 404 vans, cause few problems. Similarly, high dust, temperature, and humidity levels have not seriously impaired operation.

Evaluation

VEAs are tested fortnightly on their T&D comprehension and results computerized so that performance can be continuously monitored. Similarly, demonstration plots are systematically scored. The best VEAs receive prizes and are considered for promotion and further training. This combination of theory tests and plot scoring has generated healthy competition and ensures most VEAs pay attention to training. Inevitably some VEAs are lazy, uninterested, or incompetent and appropriate action is taken against those who fail to maintain satisfactory standards.

Feedback on T&D response occurs at the fortnightly trainers' briefings. Specialist staff evaluate demonstration farmers' response. Recent surveys indicate 95 percent of demonstration farmers wish to use improved short season sorghum and 76 percent want to use herbicides next season.

Performance

The VEA : FF ratio has increased to 1 : 1153 and by 1988 will reach 1 : 1000. Further expansion is limited by financial constraints and the desire to improve quality rather than number of contacts. There is now one demonstration plot per hundred farming families. Surveys indicate 65 percent of farmers listen to the T&D radio forum, and MVUs give up to three video shows a day to groups of 40 farmers or more. As a result, sales of fertilizer, seed, and chemicals have risen sharply.

"The success of the T&D system with its media support is attracting considerable interest . . ."

At this stage it is difficult to assess the long-term impact of extension on agricultural production when annual yields vary by 50 percent or more due to fluctuations in rainfall. However, there is no doubt that the discipline of the fortnightly cycle with emphasis on practical demonstrations supported by in-house media production has rejuvenated the local extension service. Farmer confidence in VEAs has increased and extension is making an impact on farmers vis-a-vis the adoption of new farming methods. The success of the T&D system with its media support is attracting considerable interest within Nigeria and from the West Africa Projects department of the World Bank. ■

An Agricultural Extension Specialist, Richard China has worked in Smallholder Development Projects in the South Pacific, Liberia, and Nigeria.

Peter Langmead, a Media Specialist, has been engaged with incorporating media techniques in Agricultural Extension Systems, mostly in Nigeria.

(**Videotape** continued from page 4)

sound no matter how much you need the material. Nothing cheapens a product more.

15. Don't worry if your finished product doesn't have the slickness of big-budget network television. With TV equipment getting cheaper and cheaper, the professional's monopoly of the medium will be increasingly reduced, which is a big plus for home-grown productions. ■

For more information on "Communications en Développement," or to obtain a copy, please write to: Productions Nord-Sud, 11761 St. Germain, Montreal, Quebec H4J 2A1, Canada. (The U.S.$250 cost of the series covers the duplication of the tapes and the postage.)

Iain McLellan has been working as a journalist in print, radio, and television for the last ten years. He is currently in Africa with an International Development Research Centre fellowship studying the relationship between development planners, television, and other DSC projects.

(DevCom continued from page 16)

students. The programs carried the entire mathematics curriculum through a combination of entertainment, drill, student response, physical activities, and the principles of distributive learning.

The program outcome demonstrated significant improvement in the learned skills of the test group compared with control students. While start-up costs of a program of this sort are high, the longer the program is used, (and the fewer the students who have to repeat the grade), the more cost-effective it becomes. The *Radio Mathematics* project is now being replicated in Thailand, and its process is being applied to other subject areas such as language teaching and science education.

By 1975 the results of Wilbur Schramm's study, *Big Media, Little Media,* a comprehensive look at the media, their potential, limitations, and applications, along with the studies on evaluation and cost-effectiveness of Klees, Wells, Jamison, Mayo, Orivel, and others, were widely available.

Present in all these studies was the concern for the educational needs of developing countries. Distance education (for such things as in-service teacher training or non-degree instruction) gained support as a means to accommodate the learning needs of large numbers of potential students for whom traditional education was impossible. At the tertiary level, the pace-setting work of Britain's Open University had a worldwide ripple effect.

Distance education today

Today, coming full circle, distance education enjoys the fruits of these earlier labors, now encompassing correspondence education, adult education, higher education, educational technology, in-service training, and nonformal education. A combination of print materials and broadcast or recorded media is again seen as the answer to many of today's educational problems.

The sheer numbers that China is now handling in that country's TV University cannot fail to impress those who have to contend with a rising birth rate or burgeoning adult enrollments, and shrinking education budgets. The proponents of distance education are perhaps the readiest to test the potential of the new communications media as educational tools: the electronic blackboard, slow-scan TV, the videodisc, and the computer, are among those media being applied to the learning process.

Still, world-wide, radio holds the greatest promise in support of education of all kinds. A Clearinghouse study shows that the reach of radio transmitters is surprisingly comprehensive, even in remote rural regions, and the transistor has worked its own miracles of radio accessibility. Radio's recurring technical and production costs have proven to be more easily borne than those of television, and people can learn effectively from radio.

Satellite applications

From the beginning of the ICIT, the U.S. Applications Technology Satellites' (ATS-1 and ATS-6) experiments conducted in telemedicine, teleducation, and telemanagement in the U.S. were monitored. The ATS-6 application with the most exciting potential for development, however, was SITE.

India's Satellite Instructional Television Experiment has generated shelves of reports, studies, evaluations, and articles, to document the process of bringing satellite-transmitted educational television to 2,400 rural villages in six Indian States for one year. Broadcasts reached schools in the morning with language, mathematics, and science programming, and villagers in the evening with health, nutrition, family planning, and agriculture programs.

The possibilities of using satellite transmissions to reach hitherto inaccessible regions with broadcast and interactive media were seized upon by both education and communication planners. Today, international agencies are increasingly committed to using all manner of telecommunications to extend services for health, agriculture, education, and community development to remote regions.

From the first, it was apparent from CAI and programmed instruction, ETV, the SITE broadcasts, Radio Mathematics, and correspondence materials, that to design programs which would effectively teach the same material over and over, would require extraordinary initial commitment, expertise, and imagination, at every step of the way.

We know that what is now called software must be carefully developed to withstand the test of time. In conflict with this are the constraints of never-enough-time, never-enough-money, and never-enough-trained-people. The problems of training technical staff to maintain the technology are minor compared with those of training the program designers, training the subject specialists to work with the designers, and training the creative staff to interpret the design and content for the audience.

Development communication

From the Philippines came the term 'development communication,' as perceived, taught, and applied by Nora Quebral at the University of the Philippines at Los Baños. Seen there initially as an outgrowth of agricultural extension, development communication soon grew to encompass a process of translating and communicating new knowledge in various fields to disadvantaged populations. It implied a commitment on the part of development agencies to support a capacity for information transfer within the system and to acknowledge the obligation to transfer that information to improve the quality of life.

This approach to information sharing had a major drawback, and the insistence of development communicators on the need for evaluation in the process of communicating is a result of the recognition that one-way communication carries the seeds of disaster. If a message is irrelevant, untimely, culturally insensitive, misunderstood, or boring, it is ignored, at the very least. If there is no testing or feedback process, then the communicator will not correct the message. Preliminary audience research, pre-testing, revision, formative and summative evaluation, have all become accepted parts of the process of communicating development information.

The medium

A list of media currently being used for development messages includes not only those original media from educational technology, but a variety of indigenous, or folk, media. A song, a story-teller, puppets, or drama now tell the story of nutrition, for example. While mobile vans continue to carry films of agricultural innovations to African villages, TV soap operas promote responsible parenthood in Latin America. Where wall posters promote contraceptives in one country, *fotonovelas* promote basic education in another.

The ways in which these varied media are being adapted to stimulate the adoption of innovations are becoming ever more interesting and imaginative. Before adopting any innovation, a person must first be aware that a problem exists. Then there must be knowledge of the *cause* of the problem, followed by the recognition that there is a *solution* to the problem. Only then can the person make the behavioral change and adopt the solution.

Learning from commercial advertising how to reach an audience effectively, the field of *social marketing* has evolved to take the target audience through these necessary learning steps. The first successful developing-country examples of social marketing were in the area of nutrition and family planning education. Recently, a health education project has provided an excellent model for this approach.

Mass Media and Health Practices

A significant decline in infant mortality due to diarrheal dehydration has resulted from a highly successful pilot project to use the media to introduce life-saving oral rehydration (ORT) solution to rural mothers in two test sites, Honduras and The Gambia. The project demonstrated the effectiveness of of educational messages based on audience research, and a design that integrated the same information in a variety of ways through a variety of media—radio spots, radio novels, posters, and health workers. (The project has been extensively documented in *DCR*.)

Concurrent with the communication trends we have seen were several others that were to challenge the top-down, infrastructure-related kinds of development—those of 'small is beautiful' and appropriate technology; of Paolo Freire's conscientization and the recognition of nonformal education as an empowering process that can demand and create change.

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(DevCom continued from page 14)

"Successful projects . . . usually have a leader of . . . vision and limitless energy . . ."

The development process is frequently stymied at the level where it should have most impact, the grass roots. If there is public participation in the decision making process, however, the motivation for community adoption of activities which are culturally acceptable *and* address felt needs, may carry the project through.

It is interesting to note that successful projects at the grass-roots level usually have a leader of vision and limitless energy who can sustain what will be a long, difficult, often frustrating process.

The communications equivalent of these trends are participatory media that include those already mentioned, such as puppet shows and folk theatre, and, if access is provided by local stations, community-based radio programs. Ross Kidds's efforts on behalf of folk theatre have turned up a remarkable number of such activities. A religious group in Ecuador supports a radio station with programming done entirely by local *campesinos*. An instant camera in the hands of Tanzanian villagers has been the basis for documenting and sharing their adoption of a particular improvement, such as a latrine.

The gratifying aspect of all these efforts to get information and education to those who are most in need of it is that they are expanding. Program planners no longer need to be convinced that communication can be the crucial factor in program adoption. The major constraints now are at the staffing, budgetary, and policy levels. It is not easy to find qualified program designers, scriptwriters, and graphic artists who know how to present a message clearly and simply, or researchers who can establish knowledge and needs. It is not easy to set up the mechanisms to support education at a distance. It is not easy to achieve public access to the media.

Encouraging trends

The fact that organizations throughout the world are atttempting to deal with these and other issues, on local as well as regional levels, encourages us at the Clearinghouse to redouble our efforts to expand our network, and to facilitate the sharing of experiences. There *are* solutions to development problems. It is incumbent on those of us who know that there is a *process* of finding the right solution for the right problem to support and encourage development workers everywhere. ■

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1. Clearinghouse on Development Communication, *Thesaurus of Development Communication*. Washington: Clearinghouse on Development Communication, 1981.

Judy Brace is the Director of the Clearinghouse on Development Communication.

Results of *DCR* Reader Survey

Close to 12 percent of *DCR* subscribers responded to the January 1984 reader survey, a high rate of return which was particularly impressive given the great distances and occasional postal delays in many of the 127 countries served by *DCR*. Returns are still trickling in, almost a year after the questionnaire was sent out.

Subcribers' comments from all over the world testify to the usefulness of the publication, and to the strength and unity of the *DCR* network.

Sharing copies of *DCR* is common among our readers; the survey reinforced with actual figures what we had long known—secondary readership of the newsletter is extraordinarily high. Each issue of *DCR* is read by an average of seven readers. In addition, many people photocopy the newsletter for colleagues and students, and libraries report a brisk circulation of *DCR*.

Survey Results

(Note: Readers were encouraged to check more than one category where appropriate.)

- My work is primarily in
  - —communication (55%)
  - —education (57%)
  - —agriculture (26%)
  - —nutrition (14%)
  - —population (9%)
- More of my time is spent working in
  - —information dissemination (41%)
  - —teaching (41%)
  - —research (36%)
  - —project planning (33%)
  - —project administration (23%)
  - —project evaluation (19%)
- Do you share *DCR*?
  - —share *DCR* with students (22%)
  - —share *DCR* with colleagues (78%)

An average issue of the newsletter is read by seven readers, which brings the readership circulation number to 35,000.

- How do you use the information in *DCR*?
  - —as a source of project information (84%)
  - —in project evaluation or design (20%)
  - —as a source of reprint material (15%)
- How does *DCR* benefit you?
  - —by keeping you aware of new developments and current communication thinking (87%)
  - —by promoting the use of communications strategies for development (47%)
  - —by putting local development issues into an international perspective (18%)
- Have you ever ordered books or other material reviewed or mentioned in *DCR*?
  yes (54%) no (28%) no answer (18%)
- How would you rate the overall usefulness of *DCR* to your work?
  very useful (68%) somewhat useful (32%)
  No readers rated *DCR* "not useful"
- Would you like *DCR* to
  - —have more photos and graphics (31%)
  - —have as much text as possible (69%)
- Please rank the following in order of importance to you:
  (1) articles on major issues of development communication
  (2) articles on specific communications technologies and techniques
  (3) articles on specific sectoral applications

(Numbers 2 and 3 were ranked just about evenly.)

Comments

The question asking readers if they would like articles on a particular sector or technology yielded a wide variety of ideas and suggestions, for which we are grateful. Requests for articles on microcomputer applications lead the list—for a start, see the article by Kurt Moses in this issue. Other technologies mentioned ranged from low-cost satellite applications, to puppets and folk media, to videotex, to radio for health education, to video training for teachers.

DCR readers are an active and diverse network of professionals. For the Clearinghouse staff in Washington, reading the returned questionnaires was an opportunity to appreciate that diversity, and to learn more about the shared concerns of subscribers, concerns which will continue to be reflected in *DCR*. ■

H.F.R.

(Training continued from page 11)

volved four weeks, two broken mirrors, four stitches in a knee, and a smashed headlight. In time, the mirrors and headlight were restored and the knee healed. We like to think that this final bit of training demonstrated once and for all to our fieldworkers what we meant by results orientation.

As a footnote, let us mention that few female fieldworkers existed in The Gambia before our evaluation team was posted; fewer still were issued motorcycles. But we were convinced that well-trained women with the ability to drive themselves between villages would get the results we wanted—a certain number of valid questionnaires each month. As it turned out, those were precisely the results the fieldworkers produced. ■

Peter Spain is an International Communications Specialist assigned to A.I.D.'s Office of Education, Bureau for Science and Technology. Dr. Spain was the Field Director for Research in the Mass Media and Health Project in The Gambia, and has worked in radio in the Philippines and Mexico.

The Coming of Age of Development Communication

by Judy Brace

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No one could be more delighted than I am to join the celebration of the half century anniversary of a much admired and respected older sibling.

In many ways, the Clearinghouse on Development Communication shares the same roots and the same evolutionary history as the British Council's Media Group and its journal *EBI/MED*, and we have always looked there and found encouragement and support for mutual concerns. In as much as we are deeply committed to the same goals, it might be useful to look back and see how our side of a parallel relationship has developed.

Role of the Clearinghouse

The Clearinghouse on Development Communication has been documenting 'communication which has as its purpose the deliberate promotion of one or more aspects of national development'[1] for more than a decade. We are supported by an enlightened group at the U.S. Agency for International Development (A.I.D.), that has demonstrated, through a number of projects, the capacity of the media to promote or support change on behalf of the social services.

Over the years, the scope of the Clearinghouse has expanded to encompass a far greater range of media and development concerns than its initial focus on educational technology. We now follow a generic field of media used for social development, looking both at the *kinds* of development activity (distance education, transfer of agricultural innovations, public campaigns in support of improved nutrition) and the *way* the information is transferred (posters, puppets, radio, satellite-supported technologies).

This widening concern has been reflected in the breadth and depth of our Clearinghouse newsletter. It has grown from a four-page *Instructional Technology Report* to the current 16-page *Development Communication Report*, distributed to some 5,000 readers—the majority in the developing world.

What follows is a review of some of the changes and landmark projects the Clearinghouse has noted and reported on.

Establishment of ICIT

In 1972, with a handbook on educational technology and a film on educational television in El Salvador and Niger, the Information Center on Instructional Technology (ICIT) came into being.

Those were the days in which the deficiencies of education were to be overcome by the enormous potential of television. In the developed countries, the promise of reaching large numbers of students with uniformly excellent teachers, innovative curricula, and stimulating visuals, fired the imaginations of educators. Their thinking quickly informed that of educational planners concerned with the problems faced by developing countries—including those that were newly independent, and promised free education for all.

The role then for the ICIT was to carry the news of educational television (ETV) as a possible model to the developing world through a newsletter and other publications, based on its growing collection of informational documents.

In Africa, Niger and the Ivory Coast were the prime examples of ETV, and in Latin America, El Salvador was the model. In Asia, Korea and Japan adopted this new educational technology. But television was not the only instructional medium that we were concerned with.

Instructional media derived from the application of instructional systems design to the information-carrying photographic and electronic media such as slides, films and videotapes, records and audiotapes, radio, TV, and computers. Numerous investigations in those early days were devoted to questions of the ability of the media to teach, and to which medium was the most effective. To collect some of this data, Unesco and A.I.D. published a series on *New Educational Media in Action*, with examples from around the world on ETV, radio, and print for formal and distance education.

Radio Mathematics

Perhaps the most successful test of a medium carrying the full teaching load in a primary school curriculum has been a carefully documented A.I.D. effort in formal distance education. *Radio Mathematics* (1974-1979) was designed to test the cost effectiveness of radio compared with traditional teaching by taking the lessons of computer-assisted instruction (CAI) and applying them to radio.

Program designers from Stanford University worked with the Nicaraguan Ministry of Education to translate the primary mathematics syllabus into radio programs that would provide relevant numeracy skills to a test group of rural

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